

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

NRG South Central Generating LLC
Bayou Cove Peaking Power LLC - Bayou Cove Peaking Power Plant
Evangeline, Acadia Parish, Louisiana
Agency Interest Number: 92706
Activity Number: PER20060001
Proposed Permit Number: 0040-00106-V1

I. APPLICANT

Company:

NRG South Central Generating LLC/Bayou Cove Peaking Power LLC
112 Telly St
New Roads, Louisiana 70760

Facility:

Bayou Cove Peaking Power Plant
118 Bergeaux Rd
Evangeline, Acadia Parish, Louisiana
538500 mE 3350000 mN

II. FACILITY AND CURRENT PERMIT STATUS

Bayou Cove Peaking Power Plant is an existing public power plant. Bayou Cove Peaking Power LLC, a subsidiary of NRG South Central Generating LLC, owns and operates Bayou Cove Peaking Power Plant. The power plant currently operates under Permit No. 0040-00106-V0, issued November 21, 2001.

This is the Part 70 operating permit renewal for the facility.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by Bayou Cove Peaking Power LLC on May 24, 2006 requesting a Part 70 operating permit. Additional information dated November 8, 2006 was also received.

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Bayou Cove Peaking Power LLC is also requesting an Acid Rain Permit Renewal.

Project

The Bayou Cove Peaking Power Plant generates electricity using four natural gas-fired 80 MW combustion turbines. The turbines are used primarily to meet customers' peak load demands. The power plant also has two 6.0 MMBtu/hr natural gas-fired heaters, one 200-hp emergency diesel generator, one 24-hp emergency propane generator, electric-powered fire pumps, one gas/liquid separator tank, and two water storage tanks.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM ₁₀	42.90	43.24	+ 0.34
SO ₂	35.90	36.23	+ 0.33
NO _x	245.90	249.80	+ 3.90
CO	233.80	240.07	+ 6.27
VOC	14.40	14.52	+ 0.12

LAC 33:III. Chapter 51 Toxic Air Pollutants TAP's	Emissions in Tons per year*
NON-VOC	
Sulfuric acid	4.450
VOC	
1,3-Butadiene	0.001
Acetaldehyde	0.096
Acrolein	0.020
Benzene	0.030
Ethyl benzene	0.080
Formaldehyde	1.700
Naphthalene	0.003
Polynuclear Aromatic Hydrocarbons	0.005
Propylene oxide	0.070
Toluene	0.310
Xylene (mixed isomers)	0.150
Total TAP's	6.915

*TAPs estimated emissions are calculated based on total annual fuel combustion of 4,750,000 MMBtu/yr.

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IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

On July 11, 2008, the United States Court of Appeals for the District of Columbia Circuit (the Court) vacated and remanded EPA's CAIR rule (State of North Carolina V. EPA (No. 05-1244)); however, the Court has not yet issued a mandate to make its decision effective. In the event the decision becomes effective, no source covered by this permit shall be subject to the requirements of LAC 33:III.506 and 40 CFR 97. If the court decision becomes effective, the CAIR permit will be terminated and any specific conditions in the Title V permit implementing CAIR will be null and void and removed in the next permit modification.

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Table 1. Applicable Louisiana and Federal Air Quality Requirements

ID No.: Description		LAC 33:III. Chapter													
		5 [▲]	509	9	11	13	15	2103	2104*	2107	2111	2113	2116*	21xx	22
UNF 1	Bayou Cove Peaking Power	1		1	1	1					1	1			
EQT 9	CTG-1 GE Turbine No. 1				1	1	1								
EQT 10	CTG-2 GE Turbine No. 2				1	1	1								
EQT 11	CTG-3 GE Turbine No. 3				1	1	1								
EQT 12	CTG-4 GE Turbine No. 4				1	1	1								
EQT 6	FGH-1 Fuel Gas Heater No. 1				1	1	3								
EQT 7	FGH-2 Fuel Gas Heater No. 2				1	1	3								
EQT 8	SEP-1 Gas/Liquid Separator							3							

* The regulations indicated above are State Only regulations.

▲ All LAC 33:III Chapter 5 citations are federally enforceable including LAC 33:III.501.C.6 citations, except when the requirement found in the "Specific Requirements" report specifically states that the regulation is State Only.

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KEY TO MATRIX

- 1 - The regulations have applicable requirements that apply to this particular emission source.
- The emission source may have an exemption from control stated in the regulation. The emission source may not have to be controlled but may have monitoring, recordkeeping, or reporting requirements.
- 2 - The regulations have applicable requirements that apply to this particular emission source but the source is currently exempt from these requirements due to meeting a specific criterion, such as it has not been constructed, modified or reconstructed since the regulations have been in place. If the specific criteria changes the source will have to comply at a future date.
- 3 - The regulations apply to this general type of emission source (i.e. vents, furnaces, towers, and fugitives) but do not apply to this particular emission source.

Blank -- The regulations clearly do not apply to this type of emission source.

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Table 2. Applicable Louisiana and Federal Air Quality Requirements

ID No.: Description		40 CFR 60 NSPS									40 CFR 61			40 CFR					40 CFR	
		A	K	Ka	Kb	Db	Dc	GG	KKK	IIII	A	M	V	64	68	72	73	75	77	82
UNF 1	Bayou Cove Peaking Power										1	1			3	1	1		2	1
EQT 9	CTG-1 GE Turbine No. 1	1						1						3				1		
EQT 10	CTG-2 GE Turbine No. 2	1						1						3				1		
EQT 11	CTG-3 GE Turbine No. 3	1						1						3				1		
EQT 12	CTG-4 GE Turbine No. 4	1						1						3				1		
EQT 6	FGH-1 Fuel Gas Heater No. 1													3						
EQT 7	FGH-2 Fuel Gas Heater No. 2													3						
EQT 8	SEP-1 Gas/Liquid Separator																			

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Table 3. Explanation for Exemption Status or Non-Applicability of a Source

ID No:	Requirement	Notes
UNF1 Facility wide	Chemical Accident Prevention and Minimization of Consequences (LAC 33:III.Chapter 59)	DOES NOT APPLY - Threshold quantities are not exceeded
	Comprehensive Toxic Air Pollutant Emission Control Program (LAC 33:III.Chapter 51)	DOES NOT APPLY - Facility is not a major source of TAPs
	Chemical Accident Prevention Provision 40 CFR 68	DOES NOT APPLY - Threshold quantities are not exceeded
CTG-1, CTG-2, CTG-3, CTG-4 Turbines	40 CFR 64 - Compliance Assurance Monitoring	DOES NOT APPLY - Sources do not use control devices to achieve compliance with an emission limitation or standard. 64.2(a)(2)
	40 CFR 75.14(c) - Opacity Monitoring Requirements	EXEMPT. Turbines are gas fired.
FGH-1 and FGH-2	LAC 33:III.915 - Emission Monitoring Requirements	DOES NOT APPLY. Heaters are not source categories per appendix P of 40 CFR Part 51.
	LAC 33:III.1503.C - Emission Standards for Sulfur Dioxide	DOES NOT APPLY. Facility emits less than 5 tons per year of sulfur compounds measured as SO ₂ .
SEP-1	LAC 33:III.2103 - Storage of Volatile Organic Compounds	DOES NOT APPLY. Vapor pressure of the condensate will be less than 1.5 psia at storage conditions.

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The above table provides explanation for both the exemption status or non-applicability of a source cited by 1, 2 or 3 in the matrix presented in Section X (Table 1) of this permit.

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Prevention of Significant Deterioration/Nonattainment Review

PSD does not apply.

Streamlined Equipment Leak Monitoring Program

Unit or Plant Site	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
Bayou Cove Peaking Power Plant	-	-	-

MACT Requirements

MACT does not apply.

Air Quality Analysis

Emissions associated with the proposed facility were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

A valid permit shield was not requested.

VI. PERIODIC MONITORING

Bayou Cove Peaking Power Plant will monitor Turbines CTG-1, CTG-2, CTG-3, and CTG-4 for nitrogen oxides using a continuous emission monitor as specified in 40 CFR 60.334(b)(1) through (b)(3).

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VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.